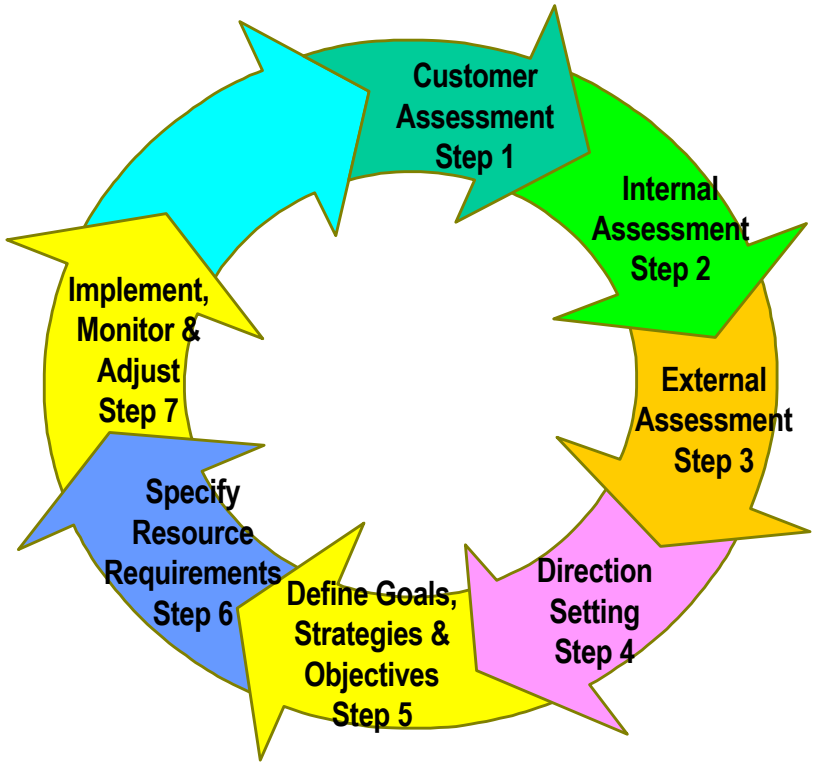
NMED Strategic Information Technology Plan 2000

1. Planning Summary

The Information Technology Service (ITS) Bureau started to develop a 2-3 year strategic IT plan for the department in January 2000. The planning process followed is illustrated in Figure A. The planning methodology used was selected by the Department Chief Information Officer (CIO) and represents best practices from several strategic information technology (IT) planning methodologies that the CIO has experience with. The Department CIO facilitated the development of the plan. The only cost to the department to develop this plan was the staff time required to participate in the process and to document and communicate results.

Planning Process



Customer Assessment - The objective of the Customer Assessment step is to define, understand, analyze and document the information technology needs across the department. Interviews with each division director and bureau chief were conducted during the first quarter 2000. Each bureau was asked to complete an Application Health Profile for each significant computer application used. The profiles describe functional, technical and support issues for a specific application.

Internal Assessment - The objective of the Internal Assessment step is to define, understand, analyze and document the internal needs of the ITS Bureau associated with providing effective and efficient products and services. To achieve this objective, a SWOT assessment was finalized through two facilitated meetings with the ITS Bureau staff. The first meeting was a brainstorming session that created prioritized lists of 1) Factors Critical for Current Success, 2) External Environment Factors, 3) Internal Weaknesses and 4) Factors Critical for Future Success. A second session was held and confirmed that the highest priority items on each list represented root causes and/or significant factors that need to be addressed by internal improvement goals, strategies and objectives.

External Assessment - The objective of the External Assessment step is to identify the IT issues, technologies, trends and benchmarks that are relevant to the Department and that influence (drive, constrain) the IT strategies and initiatives adopted by the Department. The activities performed during the assessment included 1) attending environmental and information technology meetings and conferences, and 2) conducting research on specific information technology topics. External factors were identified and evaluated that may influence what IT strategies and initiatives are adopted and how the Department approaches specific strategies and initiatives.

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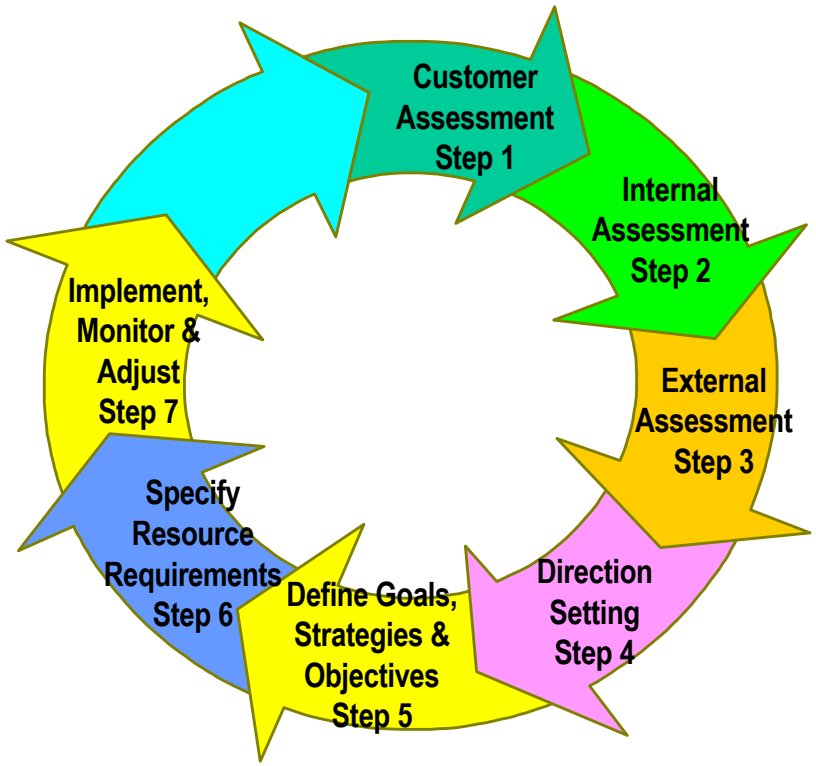

Figure A.

Direction Setting - The objectives of Direction Setting step is to describe the mission of the ITS Bureau, to develop a vision statement to describe how the Department will derive value from information technology, and to explain what new IT directions and guiding principles need to be established to respond to customer and internal needs.

Define Goals, Strategies & Objectives - The objective of Define Goals, Strategies & Objectives step is to clearly define the goals, strategies and objectives for the ITS Bureau. The strategic goals are broad statements of what the ITS Bureau needs to accomplish in the next 2-3 years; the goals address the significant findings from the Customer, Internal and External Assessment. One or more strategies are defined to achieve goal and one or more specific objectives are defined to implement each strategy.

Specify Resource Requirements - The objective of Specify Resource Requirements is to estimate the resources that are required to accomplish the objectives defined as part of the plan. Resources including, staff, equipment, tools, supplies, travel, training and contracts are estimated for each objective.

Implement, Monitor & Adjust – The objective of the Implement, Monitor & Adjust step is to clearly specify how the Department will begin the implement the strategic plan and how progress on the plan will be monitored so that appropriate course corrections and adjustments

Plan Activities, Deliverables and Participants

The table below lists some of the important activities performed and interim deliverables created for each step of the strategic planning process as well as the participants in each step.

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Process Step & Activities	Deliverable(s)	Due	Participants	Status
Conduct Internal Assessment		**3/31/00**		
Identify Strengths, Weaknesses, Opportunities, Threats	SWOT Figure		CIO, ITS Staff	(C)
Assess Employee Satisfaction Survey Results			" "	(C)
Assess Customer Feedback on ITS Customer Service	SWOT Figure		" "	(C)
Assess Progress on ITS Staffing and Workload Action Plan			" "	(C)
Define Internal Improvement Strategies & Objectives	Internal Strategies & Objectives		" "	(C)
Validate Internal Improvement Objectives with Customers			CIO, ITS Staff, Customers	(IP)
Conduct External Assessment		**6/30/00**		
Identify Industry Benchmarks to Compare Against			CIO	(NS)
Collect Current Operations Baseline Data			ITS Staff	(NS)
Compare ITS Against Industry Benchmarks	Benchmark Comparison Report		CIO, ITS Staff	(NS)
Assess Technology Trends			CIO	(C)
Define New Technology Objectives			CIO	(C)
Document Findings & Conclusions	External Assessment Report		CIO	(C)
Conduct Customer Assessment		**5/31/00**		
Assess Employee Satisfaction Survey Results			CIO, ITS Staff	(C)
Conduct Interviews with Division and Bureau Managers	Interview Reports		CIO, ITSB Chief, Customers	(C)
Assess Customer Interview Results	Summary of Customer IT Needs		CIO, ITS Staff	(C)
Review Division and Bureau Strategic Plans			CIO	(C)
Define IT Objectives that Address Agency Strategies/Objectives	SP Form 101		CIO, ITS Staff	(C)
Assess Current Systems	Application Health Profiles		CIO, ITSB Chief, Customers	(C)
Define IT Objectives for Current and New Systems/Services	SP Form 101		CIO, ITS Staff	(C)
Document Findings & Conclusions	SP Form 101		CIO, ITS Staff	(C)
Validate Customer-Driven IT Objectives			CIO, ITS Staff, Customers	(IP)
Direction Setting		**6/30/00**		
Define ITS Mission	ITS Mission Statement		CIO, ITS Staff	(C)
Develop IT Vision Statement	ITS Vision Statement		" "	(NS)
Define IT Operating Principles	ITS Principles		" "	(C)
Define New and Confirm Existing IT Directions	ITS Directions		CIO, ITS Staff	(C)
Review and Approve IT Directions with Senior Management			CIO, Senior Management	(NS)
Define IT Goals, Strategies and Objectives		**7/31/00**		
Finalize Strategic Goals			CIO, ITS Staff	(C)
Identify & Select Alternative Strategies to Achieve Goals			" "	(C)
Define Objectives to Implement Each Strategy	SP Form 101		" "	(C)
Validate Goals, Strategies and Objectives w/ Senior Mgmt			CIO, Senior Management	(C)
Define Resource Requirements		**9/1/00**		
Define Discrete I.T. Projects	SP Form 101		CIO, ITS Staff	(C)
Estimate Project Costs	SP Form 101		" "	(IP)
Develop Project Descriptions	Detail Project Descriptions		" "	(IP)
Summarize IT Plan Costs	Cost Summary		CIO	(IP)

Process Step & Activities	Deliverable(s)	Due	Participants	Status
Implement, Monitor, and Adjust Strategic Plan		**9/1/00**		
Define Governance Model			CIO	(NS)
Define Plan Monitoring Methods			" "	(NS)
Develop Plan Update Methods			" "	(NS)
Approve Governance and Monitoring Methods			" "	(NS)
Acquire Resources			CIO, ITS Staff, Senior Mgmt	(NS)
Conduct Quarterly Plan Reviews			" "	

2. Internal Assessment

Purpose & Objectives

The objective of the Internal Assessment step is to define, understand, analyze and document the internal needs of the ITS Bureau associated with providing effective and efficient products and services.

Approach

A "SWOT Analysis" was completed during two facilitated meetings with the ITS Bureau staff. The team first identified and prioritized 1) Factors Critical for Current Success, 2) External Environment Factors, 3) Internal Weaknesses and 4) Factors Critical for Future Success. A second session was held and confirmed that the highest priority items on each list represented root causes and/or significant factors that need to be addressed by internal improvement goals, strategies and objectives.

Findings & Conclusions

SWOT Figure (next page)

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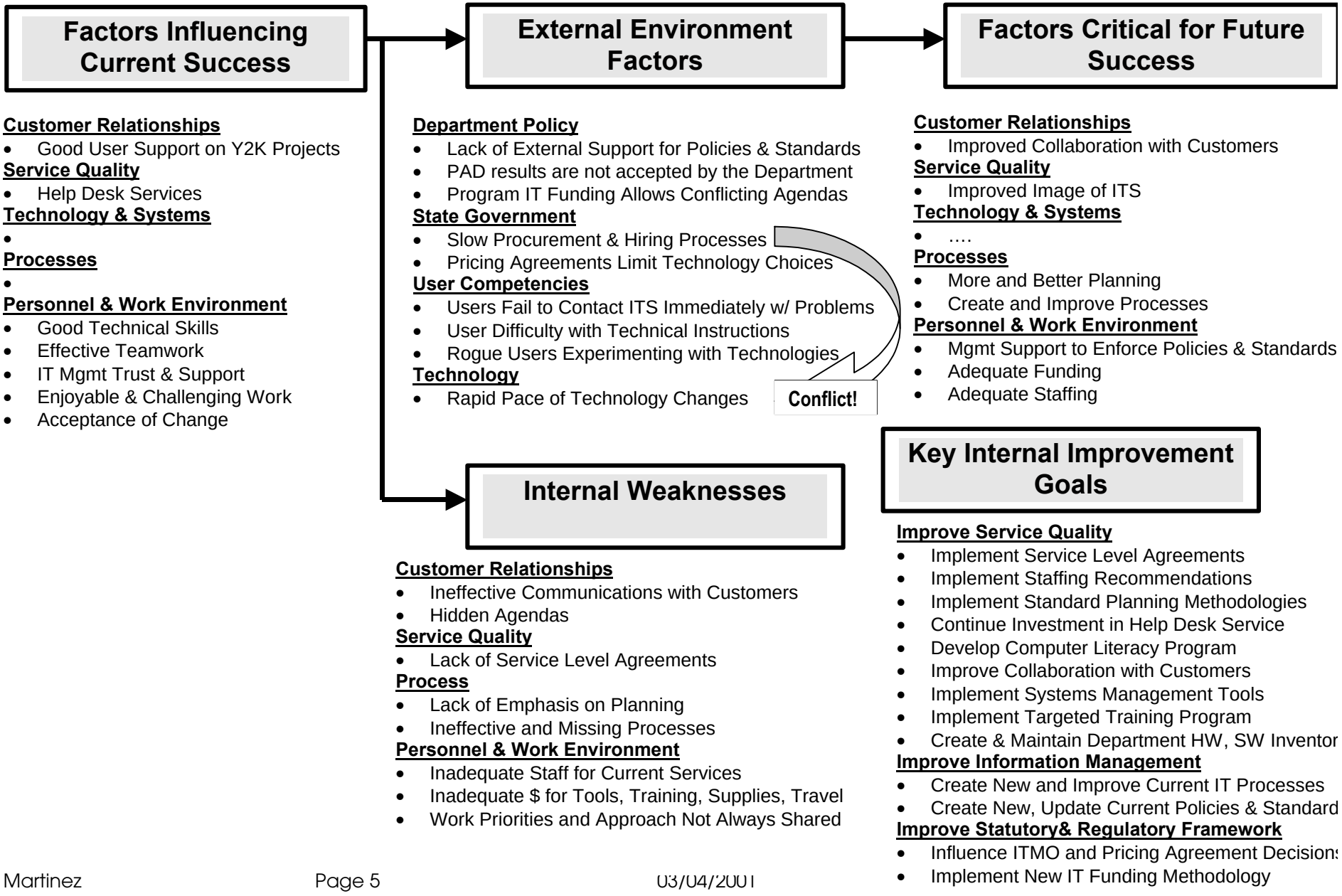
SWOT Figure



Factors Contributing to Current Success
With a few exceptions, the items on this list represent positive characteristics of ITS staff and the ITS bureau work environment and do not represent user satisfaction with current and planned systems and technologies.

Internal Weaknesses
The items on this list are mostly resource oriented (e.g. inadequate staff, tools, training, supplies, funding for hardware and software) and process oriented (e.g. current processes are poor, some are missing). The ITS Bureau ties inadequate resources and poor processes directly and negatively to service quality. The ITS bureau stated a need and desire to better manage customer and service expectations. The recommended tool to achieve this is a Service Level Agreement. When the ITS staff was asked what good planning looks like and what are the expected benefits, the response was that good planning makes resource and activity scheduling visible, creates a direct alignment between ITS goals with Department goals, and clearly defines service and product delivery expectations.

External Environment Factors
The list of external environment factors developed can be viewed as supported three major themes; these themes are discussed below:

A. Department Funding and Policy Issues
Current department funding methods are considered a major obstacle and threat to the ITS organization, ITS initiatives and ITS service quality. Individual programs are allowed to budget for information technology and services without guidance from the Department CIO and ITS Bureau. The lack of coordinated IT resource planning creates inefficiencies and conflicts between programs and the ITS bureau. The operating budget for the ITS Bureau is tied to the state general fund and annual increases to the state general fund are not adequate to support the recurring costs of information technology and services.

Another perceived obstacle is a lack of department support for existing IT policies and standards. For example, bureaus have been allowed to acquire personal computers without adding PC support staff to the department. This situation has created a demand from the ITS bureau for PC support which cannot be meet with existing staff and resources.

B. State Government Inefficiency
The ITS bureau views other state-agency processes, such as the procurement and human resources, as ineffective. Some decisions made by other state agencies, e.g. price agreements, are viewed as obstacles to meeting department needs. A striking contradiction between the sluggish pace of state government processes and the rapid pace of technology change was noted**.** The ITS bureau perceives that the Department expects them to keep up with the rapid pace of technology churn without the benefit of adequate resources and efficient state agency processes.

C. User Characteristics as a Challenge
Certain employee characteristics create challenges for the ITS bureau. The ITS bureau rates employee computer literacy as poor; poor computer literacy creates a high demand on a small ITS staff to fix very simple problems and handle routine maintenance tasks. A handful of employers are considered computer hackers and at times cause complex and time-consuming problems when experimenting with technologies that the ITS staff are not familiar with. Frequently, users do not notify the ITS bureau of problems in a timely manner and wait until a crisis occurs to request assistance.

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Factors Critical to Future Success

Each item on this list addresses one or more issues listed under Internal Weaknesses and External Environment Factors. The table below shows the relationship between the factors critical to future success and the issues listed under Internal Weaknesses and External Environment Factors.

Critical Success Factors	Links to Internal Weaknesses and External Environment Factors
• Improved Collaboration with Customers	Internal Weaknesses: • Inadequate Staff for Current Services • Inadequate $ for Tools, Training, Supplies, Travel • Hidden Agendas
• Improve Image of ITS	Internal Weaknesses: • Lack of Service Level Agreements • Ineffective and Missing Processes • Ineffective Communications with Customers External Environment Factors: • Lack of External Support for Policies & Standards • Users Fail to Contact ITS Immediately w/ Problems
• More and Better Planning	Internal Weaknesses: • Inadequate Staff for Current Services • Work Priorities and Approach Not Always Shared • Hidden Agendas External Environment Factors: • Program IT Funding Allows Conflicting Agendas
• Create and Improve Processes	Internal Weaknesses: • Ineffective and Missing Processes • Inadequate Staff for Current Services • Work Priorities and Approach Not Always Shared
• Mgmt Support to Enforce Policies & Standards	External Environment Factors: • Lack of External Support for Policies & Standards • Program IT Funding Allows Conflicting Agendas
• Adequate Funding	Internal Weaknesses: • Inadequate Staff for Current Services • Inadequate $ for Tools, Training, Supplies, Travel
• Adequate Staffing	Internal Weaknesses: • Inadequate Staff for Current Services • Lack of Emphasis on Planning

Internal Improvement Goals

Once the SWOT Analysis was complete, the ITS planning team defined a set of internal improvement objectives that support to one or more Factors Critical for Future Success. These internal objectives where grouped according to what department goal the objective best relates to.

Objectives that Support Department Goal #1 - Improve Service Quality:

1. Implement Service Level Agreements
2. Implement Staffing Recommendations
3. Implement Standard Planning Methodologies
4. Continue Investment in Help Desk Service
5. Develop Computer Literacy Program
6. Improve Collaboration with Customers
7. Implement Systems Management Tools
8. Implement a Targeted Training Program for ITS Staff
9. Create & Maintain Dept. HW & SW Inventory

Requirements that Support Department Goal #2 - Improve Information Management:

10. Create New and Improve Current IT Processes
11. Create New, Update Current Policies & Standards

Requirements that Support Department Goal #3 - Improve Statutory & Regulatory Framework:

12. Influence ITMO Decisions & SPD Pricing Agreements
13. Implement New IT Funding Methodology

3. External Assessment

Purpose & Objectives

The purpose of the External Assessment is to identify and evaluate external factors that may influence what IT strategies and initiatives are adopted and how the Department should approach specific strategies and initiatives. The main objective of the External Assessment is to identify the IT issues, technologies, trends and benchmarks in the IT environment that are relevant the to the Department and may influence (drive, constrain) Department IT strategies and initiatives.

Approach

The activities performed during the assessment included: 1) attending environmental and information technology meetings and conferences, 2) conducting research on specific information technology topics and 3) defining and explaining what external factors are significant to the Department and how the Department might respond to them.

The conferences and meetings attended included the following:

- Oracle Technology Briefing
- GoverNet Presentation
- Microsoft 2000 Seminar
- NGA Conference – Best Practices in Electronic Environmental Reporting
- ESRI Spring Conference
- Region 6 One Stop Reporting Grant Meeting
- Small States Technical Assistance Initiative (SSTAI) Kick-Off Meeting

Findings & Conclusions

Several findings that are relevant to the Department evolved from the research conducted. The findings have been categorized into five (5) subject areas; potential implications to the New Mexico Environment Department have been described for each.

The Internet Revolution

A. Acceptance and Maturity of Internet - The Internet has evolved into a reliable, well-accepted and relatively user-friendly environment for business and individuals to access public and private sector information and services. More and more citizens and organizations are using the Internet as an information tool and a service-access tool. The Internet technology infrastructure developed by the commercial sector will become the driver for future business application development. Internet technologies have reached a level of maturity and acceptance that allows mission-critical applications to be developed and supported.

Implications to the Department:

Most all employees of the Department have access to the Internet from their desktop computing device. Employees are using the State of NM web site to post Requests for Proposals and to access State of NM Pricing Agreements. Bureaus and programs are using web sites to share environmental information with the public and regulated community.

The risks associated with the Department making investments in Internet technologies or in making Department information and services available via the Internet are much diminished due to the wide acceptance of the Internet. The challenge to NMED will be to select technologies that have a long and productive life and to successfully implement and support the new technologies.

B. Application Development Changes - Application vendors are quickly enhancing their applications to make appropriate information and functions available through the Internet and by creating browser-based (vs. MS Windows-based) user interfaces. For example, vendors of financial management applications are allowing suppliers to check invoice status using the Internet.

Implications for the Department:
To date, the Department's use of purchased application software has been limited. The Oracle Government Financial System is the only major department application acquired as a packaged solution. This will change with the implementation of the IDEA (Integrated Database for Environmental Assurance) system. The IDEA system will be a customized version of American Management System's (AMS) Tempo product and will serve as a department-wide software application for regulatory data management, eventually accommodating all core functions (permitting, compliance, enforcement, measurements, collections, disbursements, and reporting) for all environmental programs (e.g., air, water, waste, field operations). Both Oracle and AMS have strong web strategies for their systems and are rapidly "web-enabling" application functions. The Department will need to acquire web development expertise to support these applications.

C. Electronic Commerce - Internet-based electronic commerce is experiencing explosive growth and increasing at a rate of three or four times annually. Commercial online purchasing is fueling this growth. Electronic commerce can affect not only the way the state deals with suppliers and customers, but also the interactions between the state and the entities it regulates. Electronic commerce promises to reduce the cost of creating, moving, managing, and processing individual documents and service transactions. In order to gain these advantages, organizations must take on the issues associated with electronic signatures. Electronic signatures allow managers and others in authority to approve, through electronic means, documents that are routed electronically through the organization. A crucial success factor for electronic signatures will be the ability to construct and maintain a sizable public key infrastructure. Implementing electronic signatures is just one example of how the emergence of electronic commerce on the Internet will force organizations to redesign systems to accommodate this new method of doing business. For internal operations, an alternative to electronic signature is workflow decision making. With proper workflow checks and balances, and routing, a signature can be considered inherent. Also, with the new unique sign-in keys offered by some companies, access to a workstation or an application can be effectively controlled. Effective workflow applications can have a dramatic effect on time spent while information crosses department boundaries, and they identify to those waiting for information where any bottlenecks exist.

Application Self Service Strategies
Application vendors are to adopting "self-service" strategies that allow internal (e.g. employees) and external (e.g. suppliers, customers) users to serve themselves to information and simple functions. For example, human resource application vendors have enhanced their systems to allow employees to look up medical and retirement benefits and to submit a personnel action form. The benefits are obvious; the human resource department is relieved from the burden of employee requests for information and the employee can access current information at a time and place that is convenient (e.g. from their home computer via the Internet or office workstation via the organization's Intranet).

Implications for the Department:
The "self service" concept has potential value for Department employees, members of the regulated community, suppliers and the general public. The Department has a good opportunity to reduce operational costs by purchasing and developing applications that have "self service" functions. For example,

regulated organizations should be able to check the status of a permit themselves by using a Department provided web application and should be able to pay smaller fees on-line.

US EPA Information Strategies

A. The US EPA has launched an Information Integration Initiative (I^3) that establishes information technology as a key strategy to improve environmental decision-making. A new Office of Environmental Information (OEI) Management has been established and reports directly to Secretary Carol Browner, reflecting the importance of I^3. The following projects are being sponsored through this initiative:

I. Central Receiving Facility (CRF) - The US EPA is developing a central receiving function that will be capable of registering companies and States to allow for electronic data submission, receiving electronic reports from registered industry and State sources in a range of formats, and detecting errors, translating, and distributing received reports to program systems. Concurrently, US EPA will be developing the facility registry system (FRS) that will be the agency's core facility identification system. The OEI will work with the States to determine how best to populate the FRS with verified state facility records.

II. Geospatial Information Integration – The US EPA would like to coordinate and integrate their geospatial information with improved mapping capability. In FY 2000, the OEI will produce a plan for an Agency Geospatial Program that will establish a vision and set the direction of the program over the next five years. A number of States indicated that they are doing similar work internally at their agencies to integrate geospatial data and agreed that it would make sense to coordinate and share experiences with EPA.

III. Cross Media Electronic Reporting Rule (CROMERR) – US EPA has proposed a rule that specifies what functional requirements related to electronic environmental reporting and electronic commerce must be satisfied by state systems and the certification process for such systems. New Mexico has provided feedback with other state to the US EPA about this rule.

IV. National Exchange Network - The States in partnership with US EPA are planning to develop a national network that delivers accurate and reliable data to the public while simultaneously reducing the reporting burden on industry and small business. The Exchange Network requires a total restructuring for the way States and US EPA collect, store, and use environmental data. An e-commerce approach is being recommended to facilitate the exchange of environmental information through the Exchange Network. The Exchange Network will provide an authoritative source of quality environmental information used in furthering the goals of environmental protection; and a framework for collecting, storing and manipulating environmental data in a standardized, accessible way that allows government officials, ordinary citizens, and all interested parties to see and use it.

The Exchange Network, when fully implemented, will:

- Reduce reporting of such data, because the data is available to anybody who wants it;
- Reduce errors in the interpretation of such data, because it is standardized and consistent; and
- Eliminate maintenance of separate database applications, because there is only one.

Implications for the Department

The Department needs to stay actively involved in and influence all four of these US EPA information management initiatives so that the decisions and designs behind these systems complement the IT decisions, initiatives and investments the Department makes. By doing so, the Department can minimize the costs and level of redesign required of Department applications to exchange information with the US EPA. Figures B and C below provide a graphical depiction of the US EPA I³ activities described in this section.

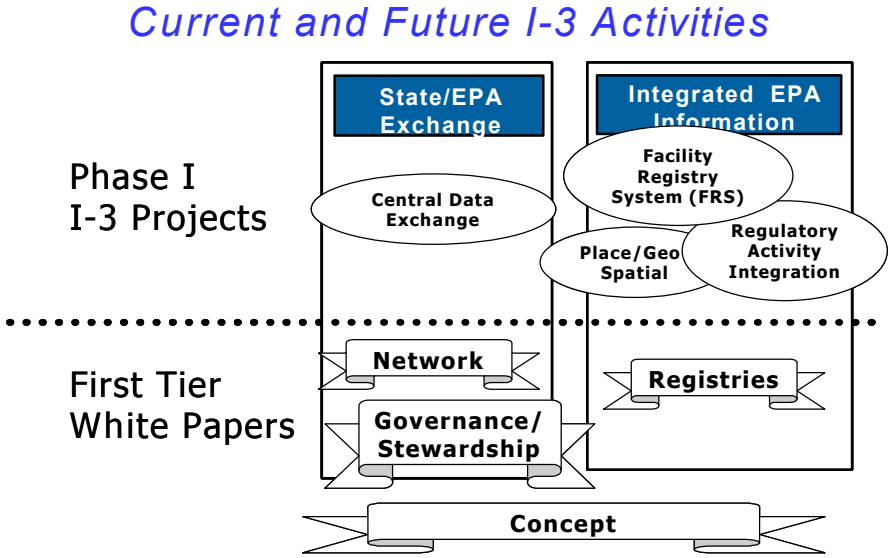


Figure B

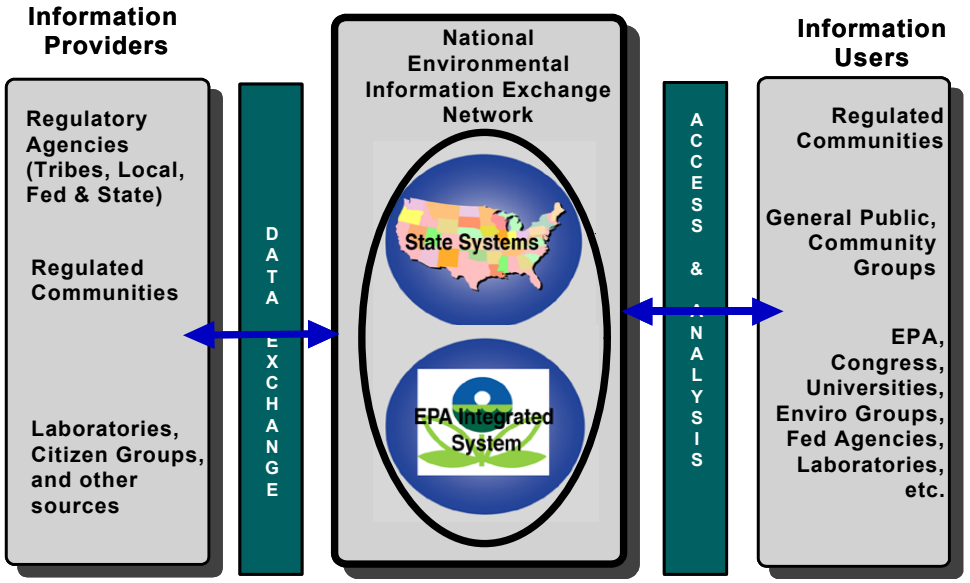


Figure C

State EPA Process and Data Integration Strategies

Over the past several years, investments by the States along with US EPA's One Stop Program, states have made great strides in integrating agency-wide data for permitting, compliance enforcement, and monitoring; improving public access to information via the Internet; and developing electronic reporting approaches that ease the reporting burden on industry and small business. All Region 6 states are moving towards integrated data, systems and processes. At least three (3) Region 6 states have mentioned 'performance based budgeting' as a driver for integrated views of environmental data. Performance based budgets are driving state agencies to care more about measuring environmental quality in terms of the health of the environment versus permit cycle time. Many states have mentioned program staff buy-in as a crucial and often over-looked requirement for successful integration projects.

The Department has already made a significant investment in data and process integration across department divisions, bureaus and programs. The IDEA (Integrated Database for Environmental Assurance) Project was initiated in July 1999 to accomplish the following objectives:

- Select, customize and implement an integrated environmental management information system
- Map, integrate and automate the Department's core processes and supporting data
- Develop a framework for understanding our processes and realizing opportunities to streamline, improve and connect those processes

The IDEA project organized process improvement teams in January 2000. These teams received training on a proven set of process improvement tools, mapped current processes, identified process commonalities, differences and best practices across programs and prioritized process improvement opportunities for the Department. The IDEA project also completed the RFP process for selecting a commercial integrated environmental management system in July 2000. The AMS Tempo system was selected and implementation activities are planned to start in July 2000. Please see Appendix B for IDEA project documents.

Implications for the Department

The Department should continue to invest in process and data automation initiatives like the IDEA project. The benefits are significant, including:

- Department core processes are streamlined and services are improved
- Department has a holistic view of all regulated entities
- Department can effectively coordinate activities across programs
- Regulated community and public has access to timely, accurate and easy-to-understand environmental information
- Eliminates duplicate entry of information
- Department has easy access to current data for analysis and decision making and makes better decisions
- Department performance metrics are based on environmental outcomes

4. Customer Assessment

Purpose & Objectives

The objective of the Customer Assessment is to define, understand, analyze and document information technology needs across the department.

Approach

Interviews with each division director and bureau chief were conducted during the first quarter 2000 to develop an understanding of division/bureau functions, strategies, initiatives, current use of information systems, current satisfactions with information systems and services and future information technology needs. To assess the status of current business applications, each bureau was asked to complete an Application Health Profile for each significant business application used. The profiles describe functional, technical and support issues for a specific application. Appendix C contains all profiles submitted and reviewed

Findings and Conclusions:

Customer Information Technology Needs Assessment

The information technology needs expressed during the customer interviews are organized in the following tables by IT area (e.g. GIS) by division/bureau:

Division / Bureau	Business Application Needs
Field Operations Ground Water Library OGC Financial Services, Purchasing, Budget Ground Water Solid Waste Solid Waste Underground Storage Tanks OGC Library Drinking Water Air Quality Occupational Health & Safety	Implement New Applications • Implement functional databases for all Field Operations programs • Implement an on-line timekeeping system that meets Superfund requirements • Implement and automated library catalog • Assess voice dictation software Enhance Existing Applications • Enhance Oracle Financials (automate revenue calculations, reconcile purchase activity with programs, activate A/R and F/A, on-line tracking of purchase requisitions, automated contract monitoring, automated work list for outstanding purchase requisitions) • Develop an integrated database for all GWQB programs • Eliminate the duplication of data entry across multiple Solid Waste applications • Develop a consolidated facility report • Enhance current UST database application with a graphical user interface • Multi-user access to Law on Disk materials on CD ROM • Multi-user access to BNA materials on CD ROM • Ability to create ad-hoc statistical reports from database applications Replace Existing Applications • Replace AIRS • Replace federal OHS system with modern system
Division / Bureau	Web Application Needs
Solid Waste Air Quality Construction Programs District 1 District 1 DOE Oversight Ground Water Quality Occupational Health & Safety Surface Water Quality District 2	Internet Applications • Bureau web-site to publish forms, reports, grant applications • Web-enable information systems so that business operators can access and submit information from/to bureau • A bureau web site to share information, market services and accept loan applications and grant proposals • District web-site to provide valuable information to the public and the department • Establish links to external web-sites like the Big I project and carpool services • Design and implement web site enhancements • Use a web site to provide on-line forms and instructions for sites. • Make safety and health information easily accessible to workers and employers via the Internet • Enhance web-site to provide hot links to related sites, hit counters and GIS drill down capabilities • Design and implementation of a web page to provide public access to appropriate information

Drinking Water Personnel Services Personnel Services Purchasing Surface Water Quality DOE Oversight OGC	• Desire to make more information available to the public and regulated community on the Internet <u>Intranet Applications</u> • Post department policies on intranet • Make forms available on the intranet • Use intranet to share SPD memos and DFA changes across the department • Electronic suggestion box to allow anonymous feedback from staff to management • Make training schedule available on the intranet • Publish legal training materials on the intranet for use by program staff
Division / Bureau	GIS Needs
Air Quality District 1 Ground Water Quality Ground Water Quality Solid Waste Surface Water Quality Underground Storage Tanks District II Drinking Water Hazardous Materials Ground Water Quality	• Increase GIS capabilities, • Use GIS and GPS to plot septic tank information • Improve GIS expertise and capabilities • Use GIS to plot sites covered by programs and associate environmental information to the sites • Learn and use GIS and GPS technologies to develop basic point coverages • GPS direct download into GIS stream segment profile; collection of TMDL information • Load tank site coordinates into GIS; download parcel data from external source • Desire to use GIS to plot regulated sites and related data • Use GPS to plot locations during sanitary surveys and upload to database and GIS • Use GIS to develop basic point coverages and maps for permitted sites and generators • Access to plotter in the near vicinity
Division / Bureau	Data Integration & Sharing Needs
Air Quality DOE Oversight Ground Water Quality Solid Waste Underground Storage Tanks	• Implement a Tempo-like integrated system (would improve multi-media inspection process) • Sharing of analytical data with other bureaus (e.g. data and analysis from field work) • Tempo-like system to eliminate redundancy of data entry tasks and uses standard permit templates • Use of an integrated department database • Implement a Tempo-like system to facilitate sharing of information across the department
Division / Bureau	Electronic Reporting & Commerce Needs
Underground Storage Tanks Ground Water Quality Hazardous Materials Solid Waste Underground Storage Tanks Drinking Water	• Electronic commerce for fees, fines and billings • Implementation of the One-Stop dairy reporting project • Electronic reporting (e.g. NASA XL projects) and filing projects • Electronic submission of compliance data from permit holders • Web-based electronic reporting from tank operators to UST • Electronic submittals to EPA to include text, database information and graphics (e.g. digital photos)
Division / Bureau	Data Network
Underground Storage Tanks Hazardous Materials	• Replace modems for system access from field offices with wide area data network connections • Connect all work sites to the department data network

Division / Bureau	Training Needs
Financial Services Solid Waste Drinking Water Drinking Water	• Improve knowledge and use of Business Objects software to produce reports • Training on available tools (MS Office, GIS, E-Mail, Internet) and on IT standards • Better familiarity with e-mail system functions and features • Training on Oracle Discover as ad-hoc reporting tool

Application Health Assessment
Application health profiles were submitted from the Surface Water Quality, Ground Water Quality, Hazardous Materials, Air Quality, DOE Oversight and Underground Storage Tank Bureaus. Across the department there are 30+ business applications used by individual bureaus and programs. Approximately 10 of these applications have been developed using Oracle application and database technologies and run on Unix servers. The other 15+ applications have been developed using Microsoft Access and the remaining 5+ applications were developing using other PC database tools (e.g. Microsoft Fox Pro). These applications are accessed from either personal computers or X-terminals. The common issues that surfaced from the application health profiles and related assessment are:

- Dissatisfaction with ad-hoc reporting and data analysis capabilities (Oracle Discoverer licenses are costly and many bureaus have not received adequate training on this tool)
- Dependence on contractors to develop/support Oracle business applications is costly due to high contractor fees and frequent turnover of contractors
- Program staff responsible for application support have left the Department without adequate knowledge transfer to other staff
- Some bureaus have IT staff to support business applications, others do not and the ITS bureau is not staffed to provide application support for bureau/program specific applications
- The standards for application development, support documentation are not adequate

5. Direction Setting

Purpose & Objectives
The objectives of Direction Setting step is to describe the mission of the ITS Bureau, to develop a vision statement to describe how the Department will derive value from information technology, and to explain what new IT directions and guiding principles need to be established to respond to customer and internal needs

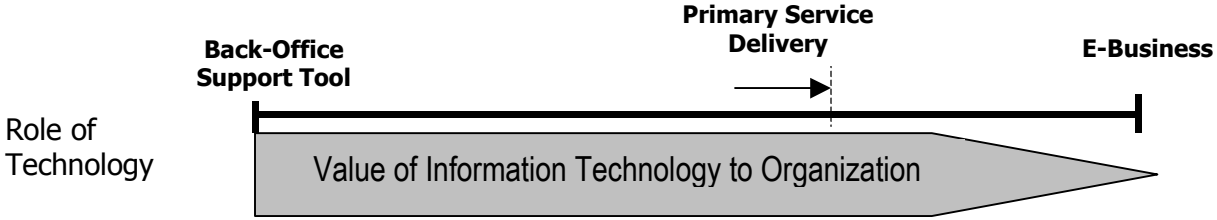
Bureau Mission & Purpose
A mission statement was developed during the last group planning session held in July, 2000; it is:

NMED Strategic Information Technology Plan 2000

The mission/purpose of the Information Technology Services (ITS) Bureau is to provide and support automated information systems that allow reliable data and information to be created, managed and shared for the New Mexico Environment Department so that programs effectively achieve their goals

Information Technology Directions

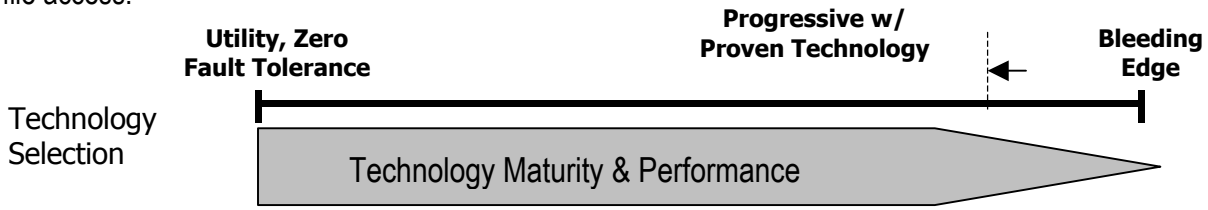
The strategic planning process has established a set of IT goals, strategies and objectives for the Department that respond to new customer requirements, external influences and internal performance issues. The Department will be embracing some new IT directions and renewing support of some current IT directions as it implements this plan. These directions are described in the following diagrams. The diagram illustrates a continuum within which a specific strategy/direction is placed and the change that is recommended within the continuum between current and future strategies.



By making Department services and information available on-line to the public and regulated community, the Department is changing the role that information technology plays within the Department. Information technology is no longer constrained to support back-office functions such as financial accounting; it is positioned as a primary service delivery vehicle.

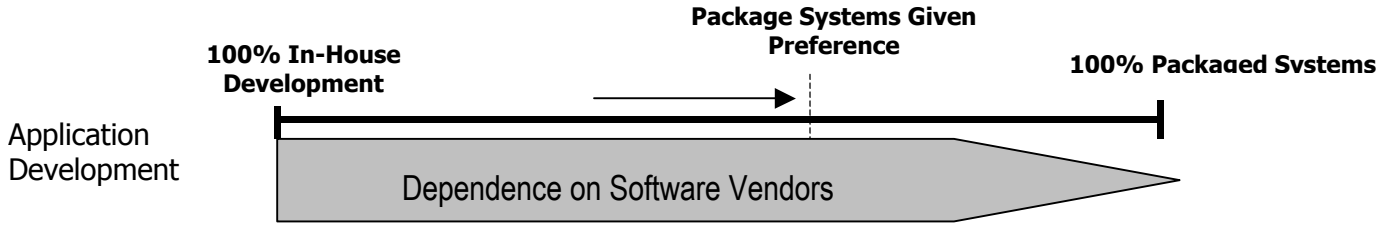
Recommended Direction

The Department should use the IDEA implementation project as the vehicle to prioritize and implement web applications that make information and services available on-line to the public and regulated community. The AMS Tempo system purchased has web-enabled air general permit applications and pemit issuance, excess emission reporting, air permit status checks, credit card payment of fees, and facility file access.



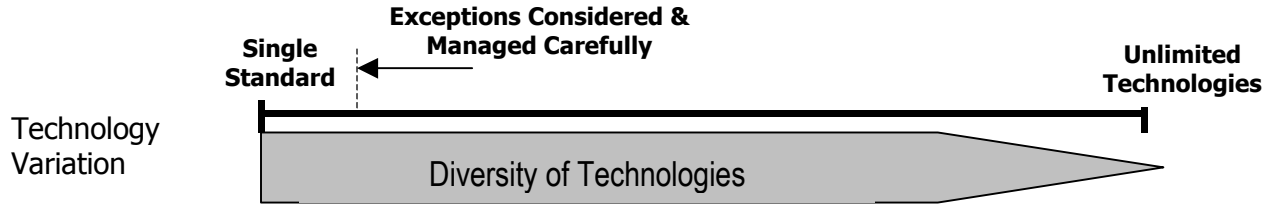
The Department has invested in a some of technologies that are considered progressive and proven such as Oracle for application development and relational database technologies, others that are considered progressive and not proven such as Microsoft thin-client technologies (NT, WinFrame, Terminal Server) and still others that are considered proven and not progressive such as the Data General Unix operating system.

Recommended Direction
The Department is well served by following the direction of investing in proven and progressive technologies. The Department has already decided to replace Data General UNIX technologies with Sun Microsystem Solaris technologies; this change will give the Department more application choices.



With the exception of the Department financial system and geographical information system (GIS), all other major business applications have been custom developed. Organizations can reduce application implementation costs and timeframes by acquiring implementing commercially off-the-shelf systems (COTS). The financial and healthcare industries are examples of market segments that have invested heavily in commercial products for core business functions. The potential benefits related to this approach are significant. The systems implementation cycle time is often much shorter than in-house development efforts and the costs for on-going support and enhancement are often smaller. The vendor takes on the responsibility to fix and upgrade the software for an annual fee.

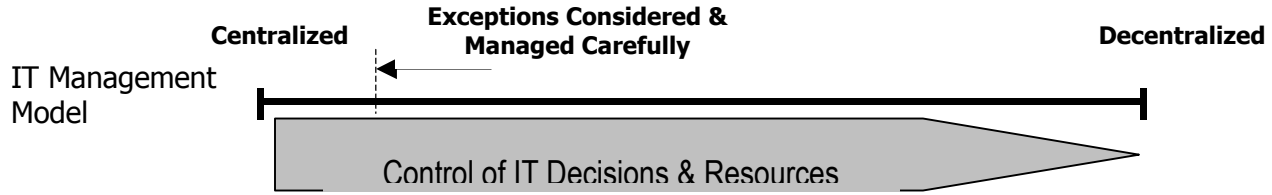
Recommended Direction
The Department should consider packaged systems as a first option and fall back on custom development only when a satisfactory packaged solution is not available.



There are many benefits to gain by reducing the variation and number of technologies used and supported by the Department, including: reduced technology maintenance and support costs, reduced complexity and increased compatibility across systems to enable data and function sharing. The Department has goof standards in place for the server environment.

Recommended Direction

The Department should limit variation of same technologies (e.g. spreadsheet software, mid-range server operating systems, PC database engines) to the extent that it does not constrain the department from acquiring or developing business applications that satisfy user requirements. Standards need to be established and enforced for desktop hardware, desktop software, and printing devices. The Department should follow the standards created by the State IT Management Office (ITMO) whenever possible to facilitate data and resource sharing across state agencies.



Data Ownership and IT Infrastructure Management - The Department should hold programs accountable for managing business data and the ITS bureau for managing the IT infrastructure that the data and business applications reside on. The IT Infrastructure provides a basic operating framework for business information systems and should be managed centrally. The IT infrastructure includes assets (server hardware and operating systems, local and wide area data networks, systems monitoring tools, networked printing devices), processes (disaster recovery, back-up and recovery, capacity planning and tuning, hardware and operating system installation and maintenance, storage management), and resources (system software and hardware engineers, data network specialists). The following benefits are gained through central management of the IT infrastructure:

- Ensures interoperability between systems and applications running on different servers (avoid incompatibilities that constrain data and application sharing across programs)
- Increases skill set and training efficiencies
- Increases purchasing leverage with vendors
- Increases operations efficiency (lower personnel costs)
- Provides for a cost-effective spare and standby program
- Maximize resource (staff, HW, SW) sharing with associated cost savings
- Reduces complexity of technical environment in cases where users need access to multiple systems on multiple servers

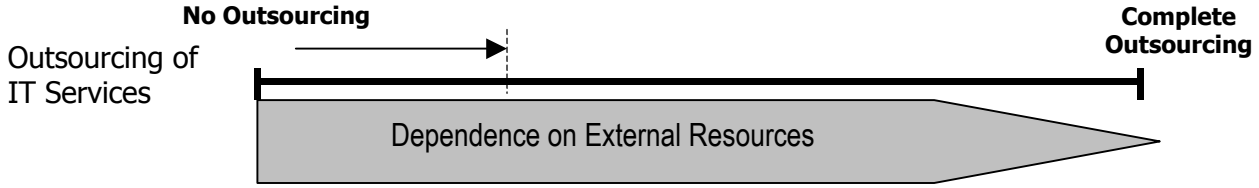
Business Application Management - There are at least two effective models for management of business application/ database development and maintenance. The first model has business application developers (a.k.a. systems analysts) report to a central IS function. Each developer is assigned responsibility to support one or more business applications for one to more business units (i.e. bureaus). The developer works closely with the business units and develops specific functional expertise. Since the developer reports to IS, coordination with IS related to application infrastructure requirements is streamlined. Another benefit of this model is an increased capability to leverage the skills and expertise, technical and functional, of one developer across multiple business units. The second model has business application developers report to a specific business unit vs. the IS function. It is easier for the developer to keep current with business unit decisions and changes that require business application/database support. Coordination with the IS function requires more effort. This model limits the opportunity for the department to leverage the functional and business skills of one developer across business units. Both models can work effectively as long as the business application developer and the IS function coordinate project and activities closely and effectively. The Department has used the second model in the past, this model has worked well for bureaus that have invested in their own IT staff but leaves bureaus without their own IT staff with limited application development and support capabilities.

PC Support

Decisions to centralize or decentralize PC support should be carefully considered as there are significant advantages, including faster problem response, and disadvantages, including reduced resource and knowledge sharing across the department, with each direction.

Recommended Direction

The Department should continue to manage the IT infrastructure centrally. Department-wide applications such as e-mail, financial management, the forthcoming IDEA system and our intranet should also be centrally managed. Bureaus and programs should continue to have the option to manage bureau/program specific business applications. A bureau should not be allowed to manage their own applications if they do not follow department standards for application development/support methodology and application technologies. The standards will ensure quality is built into business applications and that data sharing between applications can be easily accomplished.



The Department has not outsourced IT services in the past and has not added adequate IT resources to effectively support newly implemented systems and services. No positions have been added to the ITS Bureau over the last 6 years, while during this same

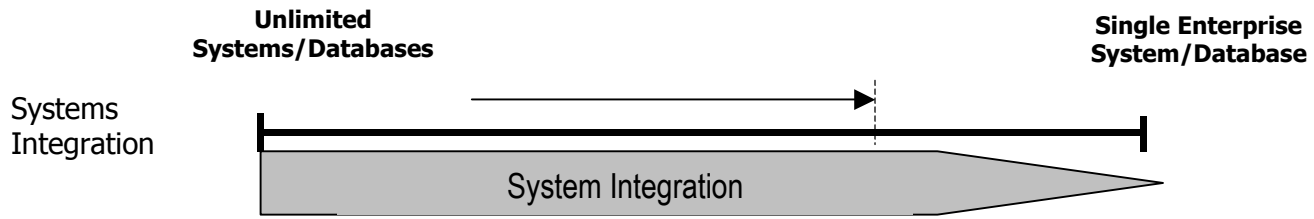
period, the seven department-wide ITS services were added to the department's ITS service portfolio; these new services represent a 60% increase in services offered are listed below:

- Geographic Information System Support
- Department Web-Site Development & Support
- Intranet Development & Support
- E-Mail System Development & Support
- User Help Desk
- Wide Area Network Design & Support
- Thin Client Network Development & Support

Each new service requires an ITS support structure that includes staff, expertise, training, and tools. By not adding staff to support the new services, the ITS bureau has been put into the difficult and frustrating situation of not being able to adequately support services that are provided to a broad user base. As a result, service performance has been severely compromised across all (old and new) services as ITS staff is stretched too thin to cover multiple services and technologies.

The support areas most severely understaffed are e-mail, data network, PC, GIS and help desk. Some combination of staff augmentation, staff assignment changes, improved tools, and improved processes is needed to address the problem

Recommended Direction
The Department should invest in a mix of strategies, including staff augmentation, outsourcing, staff assignment changes, improved tools, and improved processes in order to address its serious IT staffing problem. It is strongly recommended that the Department outsource commodity services (e.g. PC Support, E-Mail) and not strategic services such as application development and support. The benefits of outsourcing include: reduced workload of ITS staff, allows IT organizations to focus on strategic systems and services, provides opportunities to service response and reliability. The Department should use cost/benefit analysis to justify outsourcing decisions.



There is also a high degree of commonality of process and function across bureaus and programs; most all have permitting, enforcement and compliance processes and related data. With the exception of the One Stop project, the Department has not emphasized the need to integrate bureau and program specific business applications. The current department application portfolio consists of multiple bureau and program-specific applications that duplicate regulated facility information and regulatory processes. Since December 1999, the IDEA project has promoted the sharing of common data and in order to realize benefits of improved efficiency and information to guide decisions. The IDEA system will support common functions as "shared tools" so that these functions are executed in a similar fashion for all regulatory programs. For example, all programs share the same screens for scheduling and tracking work activities such as permit development, inspections and enforcement actions.

Recommended Direction
The Department should continue to make IT investments that serve to integrate common data and automate common processes across divisions, bureaus and programs.

6. Define Goals, Strategies & Objectives

Purpose & Objectives
The objective of Define Goals, Strategies & Objectives step is to clearly define the goals, strategies and objectives for the ITS Bureau. The strategic goals are broad statements of what the ITS Bureau needs to accomplish in the next 2-3 years; the goals address the significant findings from the Customer, Internal and External Assessment. One or more strategies are defined to achieve goal and one or more specific objectives are defined to implement each strategy

NMED Strategic Information Technology Plan 2000

Core Func	Dept Goal	Strategic Goals	Strategies to Achieve Goals	FY01 Objectives	FY01 Resource Needs	FY02 Objectives	FY02 Resource Needs
A	I, E, Q	G1: Acquire and Maintain an Adequate Level of IT Funding to Meet the Operational and Strategic IT Requirements of the Department Goal Outcome Measure(s): M1: Actual Funds = 75% Planned Funds Champion: Renee Martinez	S1: Participate in appropriate ITC and ECOS Committees and Forums to Influence Decisions in Support of Department IT Requirements S2: Adopt New IT Funding Methods to Enhance the Department's Ability to Improve Service Levels and Implement IT Strategies	S1, O1: Continue Membership on the ITC Broadband Management Advisory Committee (BMAC), GIS Advisory Committee (GIS) and Web Management Group S1, O2: Continue Membership on the ECOS Data Management Work Groups S1, O3: Review Other EPA-State Committee Charters and Seek Membership on Appropriate Ones by 12/31/00 S2, O1: Research Alternate Funding Methods including Federal Grants and Make Recommendations to Senior Management by 12/31/00	**Base Budget** (S1,O2& O3) $5.0 Travel Expenses $TBD ECOS Membership Dues		**Base Budget** (S1, O2 & O3) $5.0 Travel Expenses

NMED Strategic Information Technology Plan 2000

Core Func	Dept Goal	Strategic Goals	Strategies to Achieve Goals	FY01 Objectives	FY01 Resource Needs	FY02 Objectives	FY02 Resource Needs
A	I, E, Q	G2: Involve Customer/User in Appropriate IT Processes to Ensure that Decisions Impacting Business Operations are Well Understood and Supported Goal Outcome Measure(s): M1: 85% of customers responding to the annual IT customer satisfaction survey rate IT service delivery as satisfactory M2: 85% of customers responding to IT project satisfaction surveys rate IT project delivery as satisfactory over a one-year period Champion: Glen Smutz	S1: Implement Service Level Agreements (SLAs) that Clearly Specify the Service & Support Expectations between the ITS Bureau and System Users S2: Implement a Standard IT Project Methodology to Improve Project Results S3: Establish and Support a Customer/User Steering Committee Structure to Guide IT Resources Allocation Decisions	S1, O1: Inventory and Prioritize Systems by 9/30/00 S1, O2: Create & Approve SLAs for the 1-2 Highest Priority Systems by 12/31/00 S1, O3: Create & Approve SLAs for the Next Highest Priority Systems by 6/30/01 S2, O1: Research IT Project Methodologies and Select a Standard by 6/30/00 S2, O2: Customize the Selected Methodology to Meet NMED Requirements by 9/30/00 S2, O3: Apply the Methodology to One (1) Pilot Project by 3/31/01 S2, O4: Apply the Methodology to All IT Projects starting 6/1/01 S3, O1: Establish an IT Steering Committee to Guide Department IT Decisions by 12/31/00 S3, O2: Continue to Support the GIS User Steering Committee to Guide GIS Resource Allocation Decisions S3, O3: Establish a Web Subcommittee to Guide Web Resource Allocation Decisions by 9/30/00	**Base Budget** (S2, O1) $20.0 software		**Base Budget** (S2, O1) $3.5 recurring software maint.

NMED Strategic Information Technology Plan 2000

Core Func	Dept Goal	Strategic Goals	Strategies to Achieve Goals	FY01 Objectives	FY01 Resource Needs	FY02 Objectives	FY02 Resource Needs
A	I, E, Q	G3: Improve System Performance and Reliability so as to Optimize Employee Work Productivity <u>Goal Outcome Measure(s):</u> M1: Actual monthly system availability is at least 98% of scheduled monthly availability M2: 95% of system transactions meet system response time requirements as specified in service level agreements Champion: Glen Smutz	S1: Conduct a Comprehensive Systems Performance Review and Address All Significant Performance Issues S2: Develop a Department Desktop Computing Strategy S3: Improve the Current PC Computing Environment	S1, O1: Select a Contractor to Perform a Review of Department Applications by 9/30/00 S1, O2: Prioritize Performance Improvements and Develop an Implementation Plan for High Priority Improvements by 12/31/00 S1, O3: Implement 2-4 Highest Priority Performance Improvements by 3/31/01 S1, O4: Implement Next 2-4 High Priority Performance Improvements by 6/30/01 S1, O5: Resolve GIS Performance Issues Identified by GIS User Steering Committee by 9/30/00 S2, O1: Identify Current Issues, Assess Future Application Portfolio and Assess Desktop Alternatives by 12/31/00 S3, O1: Complete a Cost/Benefit Assessment on Technology Refresh Leasing by 9/1/00 S3, O1: Upgrade Network Printers by 3/31/01 S3, O3: Assess File & Print Server Solutions and Complete a Pilot Project w/ 1 Bureau by 6/30/01 S3, O4: Assess Automated PC File Backup Solutions and Complete a Pilot Project w/ 1 Bureau by 3/31/01	**<u>Base Budget</u>** (S1, O1) $20.0 professional services contract $40.0 capital outlay	S2, O2: Implement Selected Desktop Computing Strategy by 9/30/01	**<u>Base Budget</u>** (S3, O1) Transfer $ from Capital Outlay to Lease for PC and Printer Lease Contract

NMED Strategic Information Technology Plan 2000

Core Func	Dept Goal	Strategic Goals	Strategies to Achieve Goals	FY01 Objectives	FY01 Resource Needs	FY02 Objectives	FY02 Resource Needs
A	I, E, Q	G4: Assist the Department Implement Applications that Enhance Services and Information Sharing with the Regulated Community and Public Goal Outcome Measure(s): M1: 75% of public interest groups and regulated entities responding to a satisfaction survey rate service delivery and information as improved Champion: Renee Martinez	S1: Implement the Integrated Database for Environmental Assurance (IDEA) S2: Deliver Services and Provide Access to Information via the Internet S3: Improve Department GIS Capabilities S4: Improve and Standardize the Application Development (AD) & Support Environment S5: Upgrade and Enhance Department Financial System to Satisfy Program Requirements	S1, O1: Complete IDEA Detailed Design Phase by 1/31/01 S1, O2: Complete IDEA System Release 1 by 6/30/01 S2, O1: Develop an Web Service Portal for the Department by 6/30/01 S3, O1: Install New GIS Software & Complete a Pilot Project by 12/31/00 S4, O3: Assess Opportunities to Improve Ad-Hoc Reporting Capabilities across the Department and Make Recommendations by 3/31/01 S5, O1: Complete Planning for Oracle Financial System Release 11i by 9/1/00	**Base Budget** (S3, O1) $8.0 GIS Software Training (S5, O1) $10.0 Professional Services Contract	S1, O3: Complete IDEA System Release 2 & 3 by 3/31/02 S2, O2: Conduct an E-Environmental Reporting Pilot Project by 3/31/02 S2, O3: Complete an E-Service Pilot Project by 6/01/02 S3, O2: Complete Web-Based Agency GIS Design by 10/31/01 S3, O3: Complete Enhanced Dept. GIS Implementation by 4/01/02 S4, O1: Assess Opportunities for AD Resource Sharing and Make Recommendations by 9/30/01 S4, O2: Develop and Implement AD Standards including Methodology, Tools and Documentation by 12/31/01 S5, O1: Install Oracle Financial System Release 11i by 12/31/01	**C-2** (S1, O3) $1,620.9 IDEA Project **C-2** (S2O2&O3) $235.0 Agency Web Service Portal **C-2** (S3, O4) $526.4 Web-Based Agency GIS **Base Budget** (S5, O1) $50.0 Upgrade Oracle Financial System

NMED Strategic Information Technology Plan 2000

Core Func	Dept Goal	Strategic Goals	Strategies to Achieve Goals	FY01 Objectives	FY01 Resource Needs	FY02 Objectives	FY02 Resource Needs
A	Q	G5: Reduce Problem Response and Resolution Time and Costs Goal Outcome Measure(s): M1: Reduce Response & Resolution of Specific Problem Types by X% Champion: Glen Smutz	S1: Implement Recommendations from C.I.O. Staffing Analysis S2: Improve Help Desk Services by Investing in Tools, Training and Process Improvement S3: Develop Computer Literacy Program to Improve User IT Competencies S4: Implement Systems Management Tools to Improve the Prevention, Diagnosis and Resolution of Problems S5: Implement Targeted Training Program to Address Gaps in IT Staff Skills S6: Develop a Disaster Recovery Capability	S1, O1: Acquire Funding for NT Systems Engineer, Web Architect, Application Architect, Help Desk Agent, Sun Systems Engineer, Data Network Technician by 2/1/01 S2, O1: Design and Implement Problem Management Process by 8/30/00 S2, O2: Select, Purchase and Install a Help Desk Tool by 12/31/00 S2, O3: Create a Department HW, SW Inventory and Establish a Process for Maintaining the Inventory by 6/30/01 S3, O1: Research Best Practices for Improving Computer Literacy and Develop a Proposal by 3/31/01 S4, O1: Research the Systems Management Tool Market and Recommend a Set of Suitable Tools by 3/31/01 S5, O1: Conduct a Annual Gap Analysis on IT Staff Skills & Expertise starting 8/30/00 S5, O2: Research and Identify Alternate Sources for Training by 12/31/00 S5, O3: Attend Training Courses by 3/01/01 S6, O1: Update the Department's Business Continuity Plan and Revise Disaster Recovery Plan Accordingly by 9/30/00 S6, O2: Develop a Proposal for a Shared Disaster Recovery Environment with Other State Agencies by 9/1/00	**Base Budget** (S1, 01) $30.0 Salaries & Benefits for NT Systems Engineer (S2, O2) $20.0 Help Desk SW, HW, Installation Costs	S1, O2: Outsource Selected Services by 7/31/01 S4, O2: Purchase and Install System Management Tools by 12/31/01	**Base Budget Expansion** (S1, O1) $244.8 Recurring Costs for 4 FTEs (S1, O2) $50.0 Recurring E-Mail & $470.0 PC Support Costs (S2, O2) $3.0 Recurring Costs for Software Maint. (S4, O2) $6.0 Recurring Costs for Software Maint. **Base Budget** (S5, O3) $25.0 Increase Training Budget

7. Underlying Contradictions

For each strategic goal and related strategies, a list of potential barriers, enablers, and unintended consequences were identified. A barrier is a limitation or restriction that might prevent the implementation of the objective. An enabler is a strength or opportunity that may influence the state's success in implementing the objective. An unintended consequence is an unexpected event, effect, or occurrence that may result once the objective is implemented.

Strategic Goal 1: Acquire and Maintain an Adequate Level of IT Funding to Meet the Operational and Strategic IT Requirements of the Department

Barriers	Enablers	Unintended Consequences
• Resistance to redirecting current resources • Current dependence on the state general fund • Program IT funding allows for conflicting agendas • Lack of proven IT track • Lack of awareness of need for funding • ITS has not work closely with EPA in the past • Lack of knowledge of alternative funding options, examples, and successful models	• Existence of a Department Strategic IT Plan • Ability to communicate benefits of investments in business terms • Federal funds are available for many environmental programs • Membership on EPA Data Management Workgroup	• Competition for federal funds within the Department

Strategic Goal 2: Involve Customers/Users in Appropriate IT Processes to Make Sure that Decisions Impacting Business Operations are Well Understood and Supported

Barriers	Enablers	Unintended Consequences
• ITS bureau credibility • Not all ITS staff have the ability to communicate technical concepts to users • Not all ITS staff understand user/business functions • Lack of current forums and access mechanisms • Some bureaus desire to be independent	• Early success with GIS User Steering Committee • Use of best practices for effective user committees and Service Level Agreements	• Creates many more internal expectations than the Department can handle

Strategic Goal 3: Improve System Performance and Reliability so as to Optimize Employee Work Productivity

Barriers	Enablers	Unintended Consequences
• Lack of resources to implement improvements	• Support from current users	

Strategic Goal 4: Assist the Department Implement Applications that Enhance Services and Information Sharing with the Regulated Community and Public

Barriers	Enablers	Unintended Consequences
• Lack of resources to implement new applications • Lack of internal expertise with web technologies	• Existence of a Department Strategic IT Plan • State Computer Enhancement Fund • Past success with FY01C2 funding for IDEA project • Projects alignment with State IT strategies • Availability of proven applications and technologies • Public and regulated community support	• Increases on-going application maintenance costs • Creates more external expectations than the Department can handle

Strategic Goal 5: Reduce Problem Response and Resolution Time and Costs

Barriers	Enablers	Unintended Consequences
• Lack of resources to implement strategies • Lack of in-state training sources	• State Computer Enhancement Fund • Availability of proven tools • Use of best practices for problem management process • Collaboration with and funding from other state agencies	• Increases on-going IT maintenance costs • Skilled ITS staff lured away from Department

8. Program/Section Listing

The ITS Bureau is organized into the following six operational sections:

(1) IT Administration
Function: provides leadership and fiscal accountability for the Bureau
Staff:
Glen Smutz, IS Manager III (Bureau Chief)
(vacant), Administrative Secretary

(2) IT Systems Infrastructure Support
Function: designs, implements and supports hardware and software systems; including desktop, server and data network hardware, operating systems and software.
Staff:
Fred Gross, IT Tech. Master III (supervisor)
Ross Palmer, Software Engineer Specialist III
Kevin Armijo, Software Engineer Specialist I

(3) IT Applications and Database Support

Function: designs, implements and supports business applications and databases and performs database administration functions
Staff:
Devi Piper, Database Administrator III (supervisor)
Felicia Julian, Database Administrator I
Yolanda Gonzales, Database Administrator I (part time)

(4) IT Help Desk
Function: provides and coordinates responses to system problem calls and service requests
Staff:
Tim Reed, Software Engineer Specialist II
Yolanda Gonzales, Database Administrator I (part time)

(5) IT Web and GIS Administration
Function: designs, implements and supports web and geospatial applications
Staff:
Jim Benenson, IT Tech. Master I

(6) IT Project Management
Function: lead, plans and coordinates activities, tasks and resources associated with IT projects
Staff:
Laura Orchard, Management Analyst IV